

THE NEW SYMPATHOMIMETIC BASES

INVESTIGATIONS centering round the sympathomimetics have lent themselves to almost rigorous interpretation and made possible the theoretical prediction of the probable physiological properties of a related member fulfilling the structural specifications for sympathomimeticity. Nevertheless, these studies have been mostly restricted to members of the benzene series. Since the classical researches of Barger and Dale (*J. Physiol.*, 1910, 41, 19), in 1910, no systematic efforts appear to have been made to explore the sympathomimetic potentialities of the higher poly- and hetero-cyclic ring systems. Rajagopalan and Venkatachalam (*Proc. Indian Acad. Sci.*, 1944, 20, 175) have now biologically examined twenty-one compounds, severally derived from the benzene, naphthalene, acenaphthene, phenanthrene and isoquinoline nuclei. These compounds possess the accepted chemical configurations for sympathomimetic activity; their synthesis had formerly been reported by Rajagopalan (*J. Indian Chem. Soc.*, 1940, 17, 567; *Proc. Indian Acad. Sci.*, 1941, 13, 566; 14, 126; 1944, 20, 107). The results obtained by Rajagopalan and Venkatachalam are interesting since they afford an insight into the fundamental relation between constitution and pressor action particularly of the naphthalenic compounds. The rules governing the qualitative and quantitative relation between structure and pressor action of benzenoid sympathomimetics appear to apply to members of the naphthalene series only to a limited extent. The substitution of the benzene nucleus of well-known vasoconstrictors by the naphthalene ring usually results in considerable increased action, but this rule has an exception. The generalisation of Madinaveitia (*Bull. Soc. Chim.*, 1919, 25, 601; *Anal. Fis. Quim.*, 1920, 18, 66) that such substitution augments the activity by over forty times consequently receives only limited support. The postulate of von Braun (*Ber.*, 1916, 49, 2645; 1917, 50, 63) that methyl amino hydrindene owed its high activity to its being doubly a β -phenyl ethylamine seems inadequate in view of the feeble activities now evinced by a number of bases which may be considered β -phenyl ethylamines many times over. While the naphthalene and acenaphthene nuclei are equal and about seven times as active as the benzene ring, the phenanthrene ring is only twice as effective as benzene sympathomimetically. New potent pressors appear unlikely to be encountered in the benzene, phenanthrene and isoquinoline ring systems, but the naphthalene series appears promising. The active pressor amines of the naphthalene series revealed in a more recent study of Rajagopalan and Venkatachalam (*Current Science*, 1944, 13, 232) are β , β -1:1'-dinaphthyl, β -hydroxy ethylamine, β , 2- and β , 1-naphthyl,

β -hydroxy ethylamine, ω -amino, α -acetone, and β , 1-naphthyl ethylamine. Whether any of these are likely to find a place ultimately in medicine, by virtue of advantages they might possess over the sympathomimetics now in usage in the matter of less toxicity, more prolonged action, etc., can be settled only by their detailed pharmacological examination. There is no doubt that the sympathomimetics constitute a fertile field for further exploratory work by the organic chemist in collaboration with the pharmacologist.

OBITUARY

PROF. J. K. CATTERSON-SMITH

TO all his friends in India and particularly to his old students of the Indian Institute of Science the news of the passing away of Professor Catterson-Smith must have caused great sorrow and to many of them it must have come as a personal loss.

Professor Catterson-Smith came to India in 1922 when he was appointed to the Chair of Electrical Technology at the Indian Institute of Science, Bangalore. The eight years of his stay were marked by considerable expansion of the Department, particularly the introduction of the High Tension and Radio laboratories, which can stand comparison with most other laboratories of similar type in other parts of the world. He was the Founder and President of the Electrical Engineering Society for eight years running. *Electrotechnics*, the only journal in India devoted to Electrical Engineering, owes its origin to his zeal and enterprise. In recognition of his services the Honorary Fellowship of the Indian Institute of Science was conferred on him.

Professor Catterson-Smith left India in 1930, having been appointed William Siemens Professor of Electrical Engineering at King's College, London, which post he held till his death. In addition, owing to war conditions, he spent the last five years with King's College, at the Bristol University. Professor Catterson-Smith was an admirable teacher and his lectures were greatly appreciated by all his students.

Professor Catterson-Smith was an ardent believer in the industrialization of India and always showed genuine interest in the development of Indian resources. Many factories owe their origin to his initiative as for example the Government Porcelain Factory, Bangalore.

Professor Catterson-Smith was extremely courteous and sweet-tempered and succeeded in winning in a remarkable degree the affection and admiration of all who came into contact with him.

In his death the world has lost an able engineer, India a sincere friend and his students a great teacher and guide.